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Yucheng Jin

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EXAMINER

LEVITAN, DMITRY

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/850,377             | JIN, YUCHENG        |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Dmitry Levitan         | 2662                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### *Drawings*

The drawings were received on 08/29/01. These drawings are approved.

### *Claim Objections*

1. Claims 14 and 15 are objected to because of the following informalities:

Claim 14 recites the limitation "the hybrid fiber cable media access interface" in line 1, and claims 14 and 15 recite the limitation "the shared central processor" in lines 2.

There is insufficient antecedent basis for these limitations in the claims.

2. Claims 13-16 are objected to because of the following informalities: it is unclear what external telephone cable means, because external cable can be interpreted as a cable external to a house or a cable external to the telephone adapters. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 5-9, 11, 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Lazarus (US 6,816,512).

The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

3. Regarding claims 1 and 8, Lazarus teaches an apparatus and a method for simultaneously delivering multiple telephony services over a communication network (telephone system on Fig. 2 and 3:12-28 interconnected to communication networks as shown in Fig. 1) comprising: a single telephone cable (existing phone cable inside the house 38 on Fig. 2 and 3:12-19), and a plurality of telephone devices connected to the single telephone cable (plurality of separate telephone devices 40 connected to a single telephone cable 38 on Fig. 2 and 3:19-33).

4. Regarding claims 2 and 9, Lazarus teaches a digital telephone multiplexer connected to the single line (multiplexer 34 on Fig. 2 connected to line 38 3:15-19) and a plurality of demultiplexers connected to each one of the telephone devices and to a single cable (demultiplexers 42 on Fig. 2 connected to the telephone devices 40 and cable 38 3:23-29).

5. Regarding claim 5, Lazarus teaches a digital telephone multiplexer disposed in a communication gateway (multiplexer 34 located in a communication gateway 32 on Fig. 2 and 3:13-19).

6. Regarding claims 6 and 11, Lazarus teaches an apparatus and a method for delivering telephone services over communication network (telephone system on Fig. 2 and 3:12-28 interconnected to communication networks as shown in Fig. 1) comprising:

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a single telephone cable (existing phone cable inside the house 38 on Fig. 2 and 3:12-19),  
a plurality of sets of telephone/demultiplexer units connected to the cable, each of the units including a demultiplexer and a telephone device, wherein each of the demultiplexers is connected to the cable and each of the telephone devices are connected to the respective demultiplexer (telephone devices 40 respectively connected to demultiplexers 42 and existing cable 38 as shown on Fig. 2 and 3:19-36), and  
a multiplexer coupled to the cable (multiplexer 34 connected to the cable 38 on Fig. 2 and 3:12-19).

7. Regarding claims 7 and 12, Lazarus teaches an apparatus and a method for delivering telephone services over VoIP network (telephone system on Fig. 2 and 3:12-28 interconnected to IP network 24 as shown in Fig. 1 to provide telephone services 2:58-67) comprising:

a single telephone cable (existing phone cable inside the house 38 on Fig. 2 and 3:12-19) connected to the VoIP network (as shown on Fig. 1),

a multiplexer coupled to the cable (multiplexer 34 connected to the cable 38 on Fig. 2 and 3:12-19), disposed in a communication gateway (multiplexer 34 located in a communication gateway 32 on Fig. 2 and 3:13-19) and generating a multiplexed data stream (multiplexed digital telephone traffic on Fig. 3 and 41-65), and

a plurality of sets of telephone/demultiplexer units connected to the cable, each of the units including a demultiplexer and a telephone device, wherein each of the demultiplexers is connected to the cable and each of the telephone devices are connected to the respective demultiplexer (telephone devices 40 respectively connected to demultiplexers 42 and existing cable 38 as shown on Fig. 2 and 3:19-36) and wherein each of the telephone/demultiplexer unit

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generates demultiplexed voice data stream in response to the multiplexed voice data stream (each demultiplexer uses assigned time slots for reception and transmission of voice channels as shown on Fig. 3 and 3:41-4:4).

8. Claims 1, 3, 4, 8, 10 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Missett (US 6,621,789).

9. Regarding claims 1 and 8, Missett teaches an apparatus and a method for simultaneously delivering multiple telephony services over a communication network (system on Fig. 1 and 2 comprising telephones 54 and PSTN 4:66-5:12) comprising:

a single telephone cable (single cable 12 on Fig. 1, wherein cable 12 comprises upstream and downstream telephony and therefore considered a telephone cable 4:66-25), and

a plurality of telephone devices connected to the single telephone cable (telephones 54 interconnected through co-axial termination units CTU on Fig. 1 and 2 with cable 12).

10. Regarding claims 3 and 10, Missett teaches an apparatus and a method comprising one telephone demultiplexer connected to each one said plurality of telephony devices (DMT/DWMT converter 50 on Fig. 2, demultiplexing sub-channels using DMT and DWMT demultiplexing techniques 2:30-60, connected to a plurality of phones 54).

11. Regarding claim 4, Missett teaches an apparatus comprising a single cable connected to each one demultiplexers (cable 12 on Fig. 1 connected to each CTU, wherein each CTU comprises converter 50 on Fig. 2).

12. Regarding claim 16, Missett teaches a telephony adapter for adapting transmission of transmitted and received voice communication data to a telephone device over a single external telephone cable (co-axial termination unit CTU on Fig. 1 and 2 transmitting and receiving voice

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data to one of the telephones 54 on Fig. 2 over a single cable 12 on Fig. 1, wherein cable 12 comprises upstream and downstream telephony and therefore considered a telephone cable 4:66-25) comprising:

A demultiplexer coupled to the single external telephone cable (DMT/DWMT converter 50 on Fig. 2, demultiplexing sub-channels using DMT and DWMT demultiplexing techniques 2:30-60);

A coder/decoder coupled to the demultiplexer (CODEC 51 on Fig. 2 and 7:5-31), and

A subscriber line interface connection coupled to the coder/decoder (SLIC 53 on Fig. 2 and 7:5-31), the subscriber line interface connection configured to adapt said transmission of the transmitted and received voice communication data (SLIC 53 conducting upstream and downstream telephony signals 7:17-34).

### *Claim Rejections - 35 USC § 103*

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Missett in view of Nakajima (US 6,839,341).

Regarding claim 13, Missett substantially teaches the limitations of the claim:

A communication gateway transmitting and receiving voice communication data to telephone/demultiplexer devices over a single external telephone cable (interface unit 14 on Fig.

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1 transmitting and receiving voice data to one of the CTU/telephones 54 on Fig. 2 over a single cable 12 on Fig. 1, 4:66-5:16) comprising:

A central processing unit (CPU) coupled to computer memory (one of terminal control processors 212 on Fig. 3, as the second processor is provided for redundancy, 7:66-8:14, inherently coupled to computer memory, because computer memory is essential for any CPU operation),

A multiplexer coupled to the single external telephone cable being configured to transmit and receive the voice communication data (conversion unit 31 on Fig. 1 multiplexing the received signals from pair gain telephony into DMT or DWMT formatted signals 5:51-6:5).

Missett does not teach a digital signal processor coupled to the computer memory and the CPU.

Nakajima teaches a digital signal processor coupled to the computer memory and the CPU (DSP 310 on Fig. 3 and 5:12-45, wherein the DSP generates voice encoding and tone signals).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a digital signal processor coupled to the computer memory and the CPU of Nakajima to the system of Missett to improve the system telephony operation by providing voice encoding and tone generation.

Regarding claim 15, Missett in view of Nakajima teaches the DSP, the multiplexer and the processor comprise a telephony interface (the DSP, the multiplexer and the processor, as in claim 13 rejection above, comprise a telephony interface, inherently part of conversion unit 14, because it receives and transmits telephony signals from central office 26 as shown on Fig. 1 and 5:37-50).



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15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Missett in view of Nakajima in further view of admitted prior art (hybrid fiber coaxial media access control interface on Fig. 5 and pages 2 and 3).

Missett in view of Nakajima teaches the CPU and the computer memory (as in claim 13 rejection above) comprising a cable media access interface (inherently part of a video head end 20, because it interconnects through cable 22 with a video source as shown on Fig. 1 and 5:33-36) comprising a cable modem portion (portion of interface unit 14 converting video signals for transmission on cable 12).

Missett in view of Nakajima does not teach a cable media access interface as a hybrid fiber cable media access interface.

Admitted prior art teaches hybrid fiber coaxial media access control interface (HFC 26 on Fig. 5 and 2:20-3:2).


It would have been obvious to one of ordinary skill in the art at the time the invention was made to add hybrid fiber coaxial media access control interface of Admitted Prior Art to the system of Missett in view of Nakajima to improve the system compatibility with widely used hybrid fiber coaxial cable television systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'DL' followed by a stylized name.

Dmitry Levitan  
Patent Examiner.  
05/11/05